Board of County Commissioners
Agenda Request

Date of Meeting:	January 13, 2004
Date Submitted:	January 7, 2004
To:	Honorable Chairman and Members of the Board
From:	Parwez Alam, County Administrator Gary W. Johnson, Director, Growth and Environmental Management Tony Park, P.E., Director, Public Works
Subject:	Board Direction on the Proposed Route for the City of Tallahassee Eastern Transmission Line

Statement of Issue:

This item seeks Board direction regarding the placement of the City of Tallahassee Eastern Transmission Line (ETL).

Background:

The City of Tallahassee (City) has determined that in order to supply adequate electric power supply to current and future residents of eastern Leon County, that a new transmission line needs to be run to the eastern portion of the County. To address this issue, the City approved the construction of an overhead transmission line at their June 13, 2001 meeting. After the initial decision, and due to the fact that Mahan Drive is considered a "gateway" to the community, the City decided to hire independent consultants, Exponential Engineering Company and EDAW (EDAW) to study and recommend the best route for the new transmission line. Part of the study included conducting two public meetings to gain citizen input on the project.

After studying the issue, the EDAW determined that the best route for the line would be from Weems Road, east along the CSX Railroad right-of-way, north through Alford Arm Greenway, then terminating northeastward at the proposed substation at Mystic Warrior Trail. The City Electric Department is recommending a more direct route, northward along Weems Road then east along Highway 90 to Mystic Warrior Trail. The different criteria applied by EDAW and the City that allowed them to arrive at their independent conclusions are detailed in the analysis section below.

At their November 11 and 25, 2003 meetings, the Board voted to have the Chairman send letters to City Mayor, John Marks (Attachment # 1), requesting that the City of Tallahassee delay their final decision on siting the transmission line until more public input could be received.

Furthermore, at the November 25, 2003 meeting, the Board directed staff to review items concerning electric transmission lines in general, and the ETL specifically. Staff from the County Attorney's Office, Public Works, Public Services, Environmental Health, and Growth and Environmental Management collaborated in the analysis of the ETL, and the results are detailed in the analysis section below.

At their December 10, 2003 meeting, the City Commission voted to hold a third public meeting on January 6, 2004, and make their siting decision at their January 14, 2004 meeting. The agenda item considered by the City Commission at their December 10, 2003 meeting is shown as Attachment # 2.

Analysis:

The following items concerning the ETL which are enumerated below were analyzed. In addition, staff met with City Electric Department representatives, Brian Fisher and Paul DeFrank, on December 16, 2003, to obtain additional information regarding the decision making process that led to the Electric Department recommending the Mahan Corridor for the location of the ETL.

1) Explore CSX Route and Provide an Analysis of All Possible Alternate Routes.

The City of Tallahassee has provided a brief history and analysis of the ETL, and the reasoning behind choosing Route A, Mahan Drive. This document is located on their web site and is shown as Attachment # 3.

The City's consultant reviewed and analyzed 33 potential routes for the ETL. Five primary routing scenarios were identified as follows:

1. Mahan Drive - A single route (Route A), which maximizes the use of Mahan Drive.
2. Mahan Drive-Buck Lake Road - 2 routes (Band E) that nearly equally split their use of these two roads.
3. Buck Lake Road - routes that use Buck Lake Road to a large degree.
4. West Railroad - routes that use the railroad right-of-way in the western portion of the study area only.
5. East Railroad - routes that maximize the use of the railroad right-of-way by extending into the eastern portion of the study area.

These primary routing scenarios were displayed to the public at the first informational meeting on August 26, 2002. From these routing scenarios, the six best alternatives were chosen. These six routes, depicted by the City of Tallahassee, are shown in Attachment #4.

In their final report (page 21) EDAW indicates that there were five major ranking criteria conditions used to score the six routes. These criteria were: Residential Properties, Public and Commercial Interests, Physical Resources, Visual Considerations, and Biological Resources. A summation of the Criteria Occurrence Summary pulled from the report is shown as Attachment #5. This shows the actual number of occurrences that each of the six routes would have with the specific criteria conditions. This provides a detailed documentation of the differences and trade-offs among the six primary alternatives.

Within each of the five ranking criteria in Attachment #5 are a number of related conditions. These conditions were weighted within each criteria to indicate their relative level of significance. In each case, the specific condition judged to be the most important was given a weight of 10 and all other conditions within each of the five criteria were assigned weights based on their relative level of significance which was determined by the City's consultant. The process of determining scores of each criteria category for each route was to count the number of occurrences of sensitive conditions encountered by each route, times their weights. The summary of the criteria scores for each of the six primary alternative routes, as depicted in EDAW's report is shown in Attachment #6. The lower the criteria score, the better the route performed in the criteria category.

To assist in understanding the relative standing of a particular route within a criteria category, a technique called "Rank Ordering" was utilized. This places the range of scores on a standardized scale of 1 to 10. The rank order score is further explained and shown in Attachment # 6. As shown, each of the six routes has advantages and disadvantages. Since each of the five categories were placed on a scale of 1 to 10, they could then be added to give the final comparison between the six routes. This prevented the raw score addition from potentially hiding the important differences between the routes because of highly different ranges of scores for these criteria categories. The "Total of Ranks" is shown for each of the six primary routes.

The use of rank ordering assumes equal value for each of the five criteria categories. A person concerned about "Visual Considerations" and "Residential Properties" care more about those scores than the total score. However, the Consultant indicated the "total" as the most important consideration to identify the route that has the best overall compatibility.

The City's consultant conducted a Second Public Workshop on April 22, 2003. Comments were received on which routes and criteria categories were most important. The direction given by the City to the Consultant was to base the recommendation of the study strictly on the results of the technical studies conducted and the public input received at the two public workshops. After collecting all this data, and receiving public comment, EDAW recommended Route N for the ETL. EDAW qualified this recommendation as follows:

- It scored best or second best with four of the five criteria categories (more than any other route)
- It scored best with Residential Properties, the criteria category the public rated as most important.
- It scored poorly only in Physical Resources, a category of much less importance to the public and one whose effects can be largely mitigated through careful design and construction, unlike the other four criteria categories whose impacts are much less able to be mitigated.

However, the Consultant's recommendation came with qualifications as follows:

- That the City would be able to come to acceptable agreement with the CSX Railroad. A large portion of this route runs adjacent to the CSX railroad line.
- Resolve any issues with the route's proximity to the J.R. Alford Greenway which is land donated to the state and managed by the County in accordance with strict guidelines.

If route N was not available for any of these reasons, the Consultant recommended Route E or F as the preferred alternative. These were chosen due to the better rankings and lesser impact on the number of homes with visual intrusion.

After reviewing the EDAW's report, the City Electric Department decided that additional factors should weigh more heavily when they decided not to accept EDAW's recommendation for locating the ETL. These factors are as follows:

1. A primary concern with EDAW's recommended Route N would be the need for the City to enter into a legal agreement with CSX in order to work in or adjacent to the railroad right-of-way. There are liability issues that the City's counsel believes would be difficult to resolve. This process could take two years to resolve. This problem was also identified by the EDAW as the first issue that needed to be addressed in the pursuit of this route.

2. The City has several substations that are at capacity today and cannot wait through several years of negotiations and legal proceedings with CSX. Notwithstanding, the CSX issue, the City has determined that Route N does not address the immediate need for additional electric services in the area. The City has plans for adding a new distribution line to meet current needs. This line would be added to the existing poles along Mahan Drive (Route A) which would already have to be relocated when Mahan Drive is widened. The City has determined that constructing the ETL on Route A will provide the eastern area of the County the services that are currently necessary in a more timely fashion.

3. The City will also use the ETL as a part of the construction of a larger outer loop of transmission lines to provide enhanced eclectically connectivity between substations for current and future growth. Conceptual plans indicate that the loop will run south from the substation to be constructed on Mystic Warrior Trail, west along I-10 to Centerville Road, then run northeast along Centerville Road, before terminating at a substation to be constructed on the east side of Centerville Road, across from the intersection of Centerville Road and Shammrock South.

4. The logistics of building a temporary road bed in the floodplain, and the location of a Sprint fiberoptic line along the CSX Railroad have been identified as complicating factors.

5. Utilizing Route N would require the City to condemn private property north of Alford Arm Greenway to construct this leg of the ETL. Condemning private land for easements would delay the project for an area that the City has determined is under serviced with electrical power supply capacity. This additional time, and need to purchase right-of-way, would also drive up the cost of the project.

6. An analysis shows that using routes other than Route A would impact approximately 40 to 80 parcels depending on the selected route. It is expected that eminent domain proceedings will be required on each parcel affected which will require time to process. These routes and the affected parcel areas are shown in Attachment # 7. Route A is proposed to be built on existing right-of-way (with the exception of approximately 450 feet along the north side of Mahan Drive near Weems Road).

7. The consultant also chose a route that placed the ETL line in an area that has a large number of environmentally sensitive areas that would have to be mitigated. These areas include wetlands and floodplain adjacent to the southern extent of Upper Lake Lafayette, and the Alford Arm Greenway. There could be issues with the route's proximity to the J.R. Alford Greenway which is land donated to the state and managed by the County in accordance with strict guidelines. EDAW acknowledges that Route N scored poorly in the physical resources category, due to the afore mentioned features; however, they deemed this category as one that could be mitigated through design, where the other criteria factors, such as Residential Properties, could not be easily mitigated.

8. Route N and F impact several miles of homes and land not currently impacted by any overhead electrical line. All of proposed Route A is currently impacted by overhead electric lines.

9. The City's survey indicated that the public perceives Buck Lake Road different in character than Mahan Dr. Mahan Dr. is considered a major highway through the community while Buck Lake Road is considered a rural route. Any route (Routes E, F, and N) that includes the use of Buck Lake Road would impact the rural character.

10. The City previously obtained permits from the Florida Department of Transportation, (FDOT) to construct the transmission line along Mahan Drive, but the permits have since expired. Representatives from the City indicated that they will apply for a new FDOT permit for the transmission line only after the City Commission makes their final siting decision, and if they choose Route A as the location to construct the ETL.

11. Finally, the City determined that the consultant did not weight the preferred choice of the citizens who attended the public meetings heavily enough. Data collected at the meetings as shown in Attachment # 3, page 2 of 4, reflects that 177 respondents or 55% preferred Route A. Much of the public comment indicated that Mahan Drive would be preferable, since the line would follow existing right-of-way, and that existing residential areas would not be affected by a new utility corridor. This construction alternative would also occur on the edge of an existing right-of-way, and would not require the condemnation of private property to construct the route.

2) Compare Costs of Buried vs. Overhead Lines

Much discussion has occurred concerning the cost differential of installing transmission lines aboveground vs. underground. The City provided the results of comparative cost analysis of constructing the ETL on the different routes depending on whether overhead or underground lines, or a combination of both installation methods were used. A summary by the City of the cost comparisons using the different installation methods for each of six routes under consideration is shown in Attachment 3, page 2 of 4.

The only parts of the project considered in the cost comparison for underground installation are segments of the ETL that would be installed along Mahan Drive or Buck Lake Road. The difference between the two primary routes under consideration, Routes A and N, shows that the cost difference between a complete aboveground installation, and one using a combined method, ranges from $30.1 million to $8.6 million, respectively.

The cost differential between lesser ranked Routes P and T is due to very short underground segments of approximately a quarter mile for Route P and a mile for Route T. Approximately 98 percent of the transmission lines for Routes P and T are proposed to be aboveground.

There has also been discussion regarding using other underground installation methods that could lower the cost of the project. Most of the cost estimates shown in Attachment # 3 are based on utilizing the directional boring method (except for Route F/Buck Lake Road where the cost of open trenching was used) for the installation of the transmission lines. Directional boring while being a more expensive construction technique is generally less benign to the environment than the cheaper alternative, open trenching. Open trenching would require wide areas of soil disturbance, and would cause more tree removal due to root zone impact. With both methods of installation, large access manholes would need to be constructed at regular intervals to allow access to the transmission lines.

Another point of debate has been the cheaper initial installation costs associated with the installation of aboveground lines vs. the possible long term cost savings for maintenance over an extended period of time if an underground installation were done. Representatives with the City Electric Department indicated that they had done some initial long term maintenance analysis to see if the cost savings of not having to trim trees for the aboveground line would reduce the cost enough to make an underground installation worthwhile. Initial estimates show that the saving would be over such and extended period of time that the cost of an underground installation would not be ameliorated.

The City has also suggested that repairs to underground lines are more difficult to accomplish, and time consuming due to line access being limited to manholes. The repair issue is further complicated by the difficulty in identifying where a line is broken. This could cause power users in the area to have extended outages if there was a loss in current. Breaks in aboveground lines can be easily identified by visual means.

3) Potential Health Effects of Electromagnetic Fields

The debate over the potential health effects associated with electromagnetic fields (EMFs) has been waged for more than 20 years. Numerous epidemiological studies have been conducted with varying results. Some studies, such as the California Department of Health Sciences Evaluation, suggest that EMFs, "can cause some degree in increased risk of childhood leukemia, adult brain cancer, Lou Gehrig's Disease, and miscarriage." This study further suggests that EMFs may cause suicide and adult leukemia.

Other studies support a no adverse health effects position. The National Cancer Institute found no link between childhood leukemia and EMFs. The results of this study were reported in the New England Journal of Medicine in 1997, which also carried an editorial calling for and end to wasting money on EMF research.

Florida Administrative Code (F.A.C.), Chapter 62-814 regulates EMFs through the Department of Environmental Regulations (DEP). Chapter 62–814.100(2) states the department's findings with respect to EMFs. The DEP finds, "Although there is no conclusive evidence that there is any danger or hazard to public health at the levels of existing 60 hertz electric and magnetic fields found in Florida, there is evidence of biological effects and a potential for adverse health effects on the public." They call for further research to determine if there are health effects and the exposure levels at which such effects may occur. The DEP in section 62-814.450, F.A.C., establishes the maximum levels electric and magnetic fields are limited to at the edge of the right-of way and within the right-of way.

The debate over potential health effects will continue until conclusive evidence is found that either supports or negates the hypothesis. Until that data is found the potential health effects associated with EMFs remains inconclusive; however, current regulations in Florida take into account the present available scientific data when establishing maximum levels of EMFs for new transmission lines.

The County Attorney has advised that by adopting the Transmission Line Siting Act, Sections 403.52 – 403.5365, Florida Statutes (2003), the Florida Legislature established its intent that there be a centralized and coordinated permitting process for the location, construction and maintenance of transmission lines. Further, pursuant to Sections 403.061(30), 403.523(1), and 403.523(10), Florida Statutes (2003), the Legislature designated the Department of Environmental Protection with the power and duty to adopt procedural rules to implement the Transmission Line Siting Act, and to specifically establish requirements designed to reasonably protect the public health and welfare from electric and magnetic fields associated with new and existing electrical transmission lines. Pursuant to this directive, rules governing electric and magnetic fields were adopted by the Department of Environmental Protection, and are set forth at Chapter 62-814, Florida Administrative Code. As the regulation of electric and magnetic fields by the Department of Environmental Protection is so pervasive that it completely occupies the field, it is the opinion of the County Attorney's Office that a local ordinance on the subject would apparently be preempted.

4) Impact on wildlife (Specifically Birds)

Staff performed a literature search on avian (bird) mortality rates due to transmission and distribution lines. The literature is sparse and estimates vary on the mortality rates. The California Energy Commission estimates as many as hundreds of thousands of birds are killed each year from both collisions and electrocutions. The relationship between the placement of transmission structures and lines, and the surrounding habitat is a contributing factor to avian fatalities. The closer the lines are placed near a habitat that attracts birds, such as wetlands, the higher the avian mortality rates. California is performing a $1 million study to further evaluate avian mortality rates; however, the study will not be complete until the summer of 2006.

One particular avian mortality study was performed where transmission lines exist adjacent to the Shortland Wetlands in Newcastle, NSW. The observed and ground searches of avian mortality resulted in a ratio of one dead bird per 2,000 flights during a peak season of 750,000 flights. This resulted in an average of 375 bird deaths for this one location during the peak season. This rate of observed bird collisions was considered to be of low biological significance for most of the waterbird species at the Shortland site, largely due to the common status of these species. If the City of Tallahassee's transmission lines were constructed nearer to Lake Lafayette, the protected Wood Stork, an endangered species, would be more vulnerable due to the limited population.

5) Potential for the Devaluation of Property Near Transmission Lines

As directed by the Board, staff looked into the possibility of the devaluation of property due to the presence of transmission lines. Staff first contacted a representative from the Tallahassee Board of Realtors to determine whether this issue had been studied in the past. This issue has not been studied in the Leon County/Tallahassee area; however, a literature search revealed that this issue has been reviewed in several other communities nationwide. Unfortunately, the results of these studies vary from one extreme to the other.

For example, a study released in October 2000 by the Public Service Commission of Wisconsin, summarized the following:

> When buying property, people are likely to consider many factors, such as schools, community services, scenic beauty, recreational opportunities, or distance to work. The relative importance of each of these factors varies among individuals. Likewise, the importance of a nearby power line varies among people....Lastly, the presence of a power line may not affect some individuals' perceptions of a property's value at all. These people tend to view power lines as necessary infrastructure on the landscape, similar to roads, water towers, or antennae. They generally do not notice or have strong feelings about them.

Conversely, there have been other studies that report differing results, as reported in the May/June 2001 Issue of *Assessment Journal*:

> One (study) estimated a valuation loss of only 2-3 percent for properties in very close proximity to such lines.... Another suggested a loss of about 10 percent...So did a 1993 review of 100 Houston residential properties that abutted a power line corridor, which found that there was a measurable loss of value relative to non-abutting peer properties....An extensive evaluation of 12,907 residential real estate transactions in Vancouver, British Colombia, from 1985 through 1991 established "an undeniable drop in value....of 6.3 percent...due to proximity and visual impact.

Staff contacted five local appraisers to gauge their response to whether, in their experience, the presence of transmission lines had a negative impact on the value of nearby properties. Four out of the five of the appraisers contacted indicated that in their opinion, the presence of transmission lines do not devalue nearby properties. The appraiser who disagreed gave an example of properties within the Summerbrooke subdivision that backed up to a transmission line which sold for less than properties that did not. Another speculated that it may take longer for such properties to sell; however, so many other variables go into the marketability of a property that it would be hard to isolate this variable, and attribute decreased property values solely on the presence of a transmission line.

6) Aesthetic Concerns

The Board has also raised concerns regarding the aesthetic impacts installing an overhead transmission line can have on the landscape. This is of particular concern since Mahan Drive is one of the primary access corridors, or "gateways," to our community. Due the approximately $30 million difference between the estimated cost of constructing the line aboveground along Mahan Drive vs. installing it underground, the City has determined that installing the line aboveground is the most practical method of construction.

In order to mitigate the effects of the transmission lines, City staff indicated that they could allow landscaping below the lines that would grow up to a maximum of 15 feet. In addition, the standard clearing of 30 feet laterally beyond the wires could be reduced to a minimum of 11 feet to minimize the amount of trees that have to be removed.

7) Provide Information on the City's Plan to Purchase Homes near the Transmission Line

As specified by representatives of the City Electric Department at the December 16, 2003 meeting with County staff, the City has not considered purchasing homes along proposed Route A.

8) Notification of Neighborhoods through CONA.

During the course of noticing the public to obtain input, the City held two public workshops, one on August 27, 2002 and the other on April 22, 2003. According to the December 10, 2003, City Agenda Item (Attachment # 2), the City mailed approximately 7,600 notices, published notices in the Tallahassee Democrat, and posted signs in the project area. The City held a third pubic meeting on January 6, 2004, to obtain additional comment on the proposed project.

Given the additional notification provided by the City of Tallahassee, the Leon County did not provided additional notice.

Options:

1. Accept staff's report and find that more analysis needs to be done to determine the best route for the Eastern Transmission line, and request that the City of Tallahassee delay their decision on siting the transmission line.
2. Accept staff's report and concur with the City of Tallahassee that the Mahan Corridor (Route A) is the best route for the Eastern Transmission Line.
3. Accept staff's report and do not concur with the City of Tallahassee that the Mahan Corridor (Route A) is the most practical route for the Eastern Transmission Line, and respond to the City with an alternate proposal for the location of the Eastern Transmission Line.
4. Do not accept staff's report.
5. Board Direction.

Recommendation:

Board Direction.

Attachments:

1. Letters sent by Chairman Grippa and Chairman Sauls to Mayor John Marx requesting a delay in the siting decision.
2. City of Tallahassee Commission December 10, 2003, agenda item concerning the siting of the Eastern Transmission Line.
3. City of Tallahassee Electric Utility Eastern Transmission Line Project, History and Synopsis.
4. Eastern Transmission Line Primary Alternate Routes Map and Description.
5. Transmission Line Routing Study, Criteria Occurrence Summary Matrix.
6. Transmission Line Routing Study, Primary Alternative Route Comparison Matrix.
7. Property Parcels Impacted by Transmission Line Routes Maps.

PA/GWJ/WSR/wsr

BOARD OF COUNTY COMMISSIONERS

301 South Monroe Street
Tallahassee, Florida 32301
(850) 488-4710

November 20, 2003

Honorable Mayor John Marks
City of Tallahassee
300 South Adams Street
Tallahassee, Florida 32301-1731

Re: Leon County Review of Eastern Transmission Line

Dear Mayor Marks:

At the November 18, 2003 meeting, the Leon County Commission discussed the proposed Overhead Eastern Transmission Line (ETL). Concerns were raised regarding the recommended route, design, aesthetics, and potential health hazards involved in the ETL project.

It is my understanding that the City Commission will consider final review and approval of the ETL project at its December 10, 2003 meeting. The consultant's report was completed in September 2003. However, the final report was not released for public review until recently. This is to formally request that the City Commission delay any final decision on this matter until Leon County has the opportunity to review the consultant's final study report on the ETL and provide input into this important project.

City Commission consideration of this request and postponement of a decision on this critical issue would be appreciated. You may contact me at 487-4747 to discuss this matter further.

Sincerely,

Tony Grippa

Tony Grippa
Chairman

cc: Leon County Commission
City of Tallahassee Commission
Anita Favors, City Manager

BOARD OF COUNTY COMMISSIONERS

301 South Monroe Street
Tallahassee, Florida 32501
(850) 488-4710

December 1, 2003

Honorable Mayor John Marks
City of Tallahassee
300 South Adams Street
Tallahassee, FL 32301

Dear Mayor Marks:

At their November 25, 2003 meeting, the Board of County Commissioners again discussed the City's proposed Overhead Eastern Transmission Line (ETL) project. Concerns were again raised by the Board regarding the City's proposed route for the ETL, the status of the Department of Transportation (DOT) permits regarding this project, potential health risks and wildlife concerns, and possible property value impacts in relation to the placement of the transmission line near neighborhoods.

As Commissioner Grippa requested in his November 20, 2003 letter to you, the Board is again requesting that the City Commission delay its approval of the transmission line until such time that the Leon County Board of County Commissioners has an opportunity to discuss its concerns with the City Commission. The following is a list of issues the Board would like to discuss:

1) Exploration of the CXS Railroad and other alternatives as potential routes for the line.
2) Exploration of line burial and alternative burial methods (e.g., trenching).
3) Potential health risks associated with transmission lines near neighborhoods.
4) Potential negative impacts to wildlife.
5) Aesthetic concerns regarding the transmission line.
6) Status of the City's DOT permits relating to the transmission line project.
6) Potential devaluation of property values to properties near the transmission line.
7) Plans to purchase homes in close proximity to the transmission line.

We believe that a thoughtful discussion of these issues will ensure a more favorable solution regarding the placement of the transmission line.

Thank you for your consideration of this request for postponement of a decision on this issue. I will place the issue on the agenda for our first Mayor/ Chair meeting. At that time we can discuss the appropriate forum to address these issues.

Sincerely,

Jane G. Sauls
Chairman

cc: Leon County Commission
City of Tallahassee Commission
Parwez Alam, County Administrator
Anita Favors, City Manager

CITY OF TALLAHASSEE	
CITY COMMISSION AGENDA ITEM	
ACTION REQUESTED ON:	December 10, 2003
SUBJECT/TITLE:	Approval of Route Selection for Eastern Transmission Line (Transmission Line 9A)
TARGET ISSUE:	

Statement Of Issue

The Electric Utility has identified the need for additional substation capacity on the eastern side of the electric service area due to high load growth. In 2001, staff identified Mahan Drive as a likely route for the transmission line to serve a new substation. Since Mahan Drive has been designated as a "gateway" into the community, the Electric Utility initiated a study of alternative potential routes for the new transmission line and engaged a route consultant to study the land use issues, environmental features, and accept public input. In addition to the issues addressed by the consultant, the Electric Utility staff has reviewed engineering and construction requirements, permitting issues, and rights of way (ROW) acquisition issues in their identification of a preferred route. Based on their review, the route consultant recommended Route N, using the CSX ROW and traversing the Buck Lake area. However, after consideration of additional issues, the Electric Utility recommends Route A utilizing Mahan Drive, as the preferred route of the new transmission line. The approval of the City Commission is requested for the construction of an overhead transmission line along this route.

Recommended Action

Approve Option 1: Conduct a third public workshop on January 6, 2004 at Capital City Christian Church. Provide feedback to the City Commission and ask for approval of a route on January 14, 2004.

Fiscal Impact

Option 1: None. Minimal costs to hold the meeting.

Kevin G. Walles	Anita R. Favors
General Manager, Electric Utility	City Manager

For information, please contact: Kevin G. Walles, General Manager, Electric Utility, Ext. 5532

Item Title: Approval of Route Selection for Eastern Transmission Line (Transmission Line 9A)

SUPPLEMENTAL MATERIAL/Issue Analysis

History/facts & Issues

1. The peak loading on the major substations on the east side of the City's electric system is approaching the maximum capacity of the substations. These conditions stress the ability of the electric system to provide back-up service for the loads in the event of a major substation failure during peak conditions. Furthermore, under extraordinary peak load conditions like extreme low temperatures, there is inadequate capacity to reliably serve existing customers. A temporary substation, BP-49, has already been constructed and now an additional distribution feeder is needed to support the area load. Growth on the electric system continues, and the load is projected to increase at a rate of approximately 3 percent per year in the near future. Considering that substations in the east part of the service territory are approaching maximum load, major problems are likely to occur if the

proposed substation and transmission line are not in service in the near future.

2. Reliability is a critical element in the operation of the Electric Utility. As a standard design practice for reliability, residential and commercial customers' electricity service should be able to be supplied from a number of alternative substations in the area if a major outage occurs. A permanent substation site, BP-17, on Mahan Drive at Mystic Warrior Trail, has been acquired and is in the process of being permitted and designed. This new substation will need to be connected to the electric system via a transmission line.

3 The Electric Utility recognized that a likely potential route would be Mahan Drive. Due to the timing of the Mahan Drive FDOT project, the Electric Utility presented an agenda item to the City Commission on June 13, 2001 and received authorization to proceed with the construction of an overhead line on the Mahan Drive corridor from Weems Rd. to Mystic Warrior Trail. However, after further consideration of the fact that Mahan Drive serves as a gateway into the Tallahassee community and based on the desire to get additional citizen involvement, the construction was postponed until an independent route study could be conducted.

4. In June 2002, the Electric Utility contracted with Exponential Engineering Company and their subconsultant, EDAW, to perform an independent analysis of all potential routes for the transmission line. The route consultant met with various City, County, and State Agencies to review available environmental data and land use information.

5. Public Workshops were held on August 27, 2002 and April 22, 2003 after approximately 7600 notices were mailed to residents, notices were published in the Tallahassee Democrat and signage was provided in the impacted area. Public comments were recorded after each workshop, and an extended comment period after the second workshop was provided to allow more time for public input. Also, Homeowner's Association resolutions were received from Weems Homeowner's Association, Meadow Hills Neighborhood Association and Lafayette Estates Homeowner's Association.

6. The route consultant analyzed the information gathered from the various agencies and the public to develop a matrix of route alternatives and issues important to the Community. The purpose of the matrix was to determine the route that had the least impact for all criteria. Thirty-three alternative routes were evaluated and scored in categories such as Residential Properties, Public and Commercial Interests, Physical Resources, Visual Considerations, and Biological Resources.

7. Of those 33 potential routes the consultant selected six for further detailed analysis. These six were Route A, Route E, Route F, Route P, Route T, and Route N. The final report from the route consultant was issued to the City in late September 2003. The route consultant recommended Route N as the preferred route, which is a combination of CSX Railway and a portion of Buck Lake Road, and Route F as the second preferred route. After the second public workshop, the consultant reexamined and revised his scoring which caused some changes in the final scoring on various routes. Route AD, which had been one of the highest ranked alternatives presented at the second public workshop, was subsequently replaced by the consultant with Route N. From a public perspective, this route should be viewed very comparable to Route AD, because it utilizes significant portions of that route.

8. Underground construction of this line was also considered, however staff recommends overhead construction for reliability, environmental and cost considerations. This transmission line will be the only source for Substation BP17 until a transmission loop is completed connecting BP17 to future Substation BP14 near Centerville Road on Welaunee Plantation and then to existing Substation BP7 on Martin Hurst Road. A fault in the cable of an underground transmission line would result in a lengthy outage likely lasting a week or longer due to the complexity of repairing an underground transmission system. Additionally, an underground installation is not environmentally benign. Large areas must be cleared for installation of concrete vaults for cable splicing approximately every 2000 feet, and significant clearing would need to be done for cable trench excavation. Finally, the cost of underground construction greatly exceeds the cost of comparable overhead installations. In this case, the estimated cost for underground is approximately twelve times the estimated cost for the overhead option for Route A. Although there may be some savings for tree trimming and other maintenance costs, those savings would not compensate for the greater capital cost of underground.

Staff recommended route at this time:

The Electric Utility staff does not concur with the route consultant's recommendation. Instead, staff recommends Route A (as defined by the Line 9A Transmission Line Routing Study Report dated September 2003) along Mahan Drive, for the following reasons:

a) The survey data from the first public workshop had the highest number of respondents, 22 out of a total of 65, asking for "a route with the least impact on families, homes and land, which would mean using only existing right-of-way, main roads and commercial areas. Route A follows this request as closely as possible.

b) Although the residents of the Lafayette Estates Homeowner's Association collectively opposed the use of Route A, an overwhelming majority of the responding public preferred this route over the alternatives presented at the second Public Workshop. The Meadow Hills Neighborhood Association requested the line be installed underground if it is in residential areas. The Weems Homeowner's Association opposed any route using Buck Lake Road and preferred routes that did not impact their community. They also commented that if Route A were selected, the existing distribution poles should be incorporated into the new line. Electric Utility staff attended two Buck Lake Alliance meetings and presented information concerning the project. The Buck Lake Alliance concurs with the use of Route A. Below is the compilation of the resident's preference:

Route A 177

Route E 5

Route F 6

Route P 53

Route T 51

Route AD 19

Route O 1

No route 1

Don't favor or don't have a preferred route 7

Information is too much and not relevant for what is needed 1

Don't favor any route as long as the line is underground 1

c) Route A is the most economical overhead line route.

d) The use of Route N as the preferred alternative is problematic, including liability terms generally imposed by CSX upon owners of facilities in the railway corridor. The City Attorney's office has recommended against the use of CSX right-of-way for this reason.

e) Route N impacts approximately 3.5 miles of homes and land not currently impacted by any overhead electric line. Route F impacts approximately 2.33 miles of homes and land not currently impacted by any overhead electric line. All of proposed Route A is currently impacted by overhead electric lines.

f) Route N or Route F would likely require the City to condemn some of the property for construction of the transmission line, whereas Route A is proposed to be built primarily on existing right-of-way.

g) The survey data suggests that the public perceives Buck Lake Road as different in character than Mahan Drive. Mahan Drive is considered a major highway through the community while Buck Lake Road is considered a rural route. The community prefers that it be kept that way. Any route (Routes E, F and N) that includes the use of Buck Lake Road would impact the rural character.

h) The Electric Utility has considered ways to minimize the impact of construction. For reliability reasons, trees within 20 feet of a transmission line normally would be trimmed. However for this project the utility will reduce the clearance to approximately 11 feet and increase the frequency of the trimming cycle. This will effectively provide a greater buffer. During the design stage, special care will be taken to select the sides of the road with the least impact on trees and to select the locations that provide some screening. In addition, the future distribution circuits from Substation BP17 will be installed underground on Mahan at an estimated increased cost of $3,000,000, which will decrease the visual impact of the project.

Procurement Services and Budget & Policy have reviewed this agenda item and concur that it meets purchasing and budget guidelines.

While two public meetings were held already, we believe that a third public meeting on January 6, 2004 at Capital City Christian Church will provide more information for the City Commission to consider in making a final decision.

Options

Option 1: Conduct a third public workshop on January 6, 2004 at Capital City Christian Church. Provide feedback to the City Commission and ask for approval of a route on January 14, 2004.

Option 2: Approve the construction of a new overhead transmission line along Route A, as defined by the Line 9A Transmission Line Routing Study Report dated September 2003.

Option 3: Approve the construction of a new overhead transmission line along Route N, as defined by the Line 9A Transmission Line Routing Study Report dated September 2003.

Option 4: Approve the construction of a new overhead transmission line along Route F, as defined by the Line 9A Transmission Line Routing Study Report dated September 2003.

Fiscal Impact

Option 1: None. Minimal costs to hold the meeting.

Option 2: $5,440,000 (excluding the cost of future underground distribution circuits associated with the BP-17 Project). Funding was included in the existing Electric Utility Capital Improvement Projects (CIP) Budget. Project 00534 "Transmission Line 9A, BP9-17" has available funds in the amount of $2,309,896.85, and the balance will be funded out of project 04037 "Master – Electric System Construction and Improvements", which has an available amount of $12,498,249.07.

Option 3: $8,900,000 (excluding the cost of future underground distribution circuits associated with the BP-17 Project). Funding is not included in the existing Electric Utility Capital Improvement Project (CIP) Budget.

Option 4: $6,700,000 (excluding the cost of future underground distribution circuits associated with the BP-17 Project). Funding is not included in the existing Electric Utility Capital Improvement Project (CIP) Budget.

Attachments/references

None

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City of Tallahassee Electric Utility
Eastern Transmission Line Project

Project Need:

Over the last decade, the City has experienced significant growth and development, and a corresponding increase in the demand for electricity. This has been especially true in the fast growing eastern portion of the City and adjacent Leon County where development has outpaced the construction of electric transmission lines and substations. The currently inadequate transmission and substation network in this large and rapidly growing part of the City's service area creates a reliability concern.

As a standard design practice for reliability, residential and commercial customers electricity needs should be able to be supplied from a number of alternative substations in the area when a major outage occurs. These alternative substations are all linked together by a transmission line network. When major outages occur, the City must currently rely on the lower voltage distribution system to keep the power flowing to its customers. This lower voltage system has capacity limits, which means we would not be able to keep an uninterrupted flow of power to this area in the event of a major outage. Further, much of this system is currently served by a one-way feed from distant substations, so that a distribution line failure would effectively leave all customers beyond that point without power until the cause of the outage was found and repaired. This level of service is not consistent with our customers' needs or expectations.

The only acceptable and permanent way of providing a reliable source of electricity and providing for continuing growth to the eastern part of Tallahassee is to reinforce this area with the proper substation and transmission infrastructure. This infrastructure cannot wait any longer. A temporary substation has already been constructed, and now an additional distribution feeder is needed to support the area load. Growth on the electric system continues and the load is projected to increase at a rate of approximately 3 percent per year in the near future. Considering that substations in the east part of the service territory are approaching maximum load, major problems are likely to occur if the proposed substation and transmission line are not in service by the 2004/2005 winter peak.

Project History:

- Initial Work began on the Mahan Route in 2001.
- City Commission approved the construction of an overhead transmission line along Mahan Drive June 13, 2001.
- However, after further consideration of the fact that Mahan serves as a major gateway into the city, and based on the desire to get additional citizen involvement, the construction was postponed until an Independent Route Study could be conducted.
- A Route Study was conducted by EDAW/Exponential Engineering Co. from June 2002 to June 2003.
- Public Workshops were held on August 27, 2002 and April 22, 2003, after 7000 notices were mailed to the neighborhoods, notices were published in the Tallahassee Democrat and signage was provided in the impacted area.
- Public Comments were recorded at both workshops, and the comment period after second workshop was extended until May 26, 2003 to provide additional time for responses.
- The Final Report from the route consultant was submitted to the City in late September 2003.
- The route consultant recommended Route N as the preferred route to carry forward. Route F was his second highest recommended preferred route (see attached Route Map).
- In mid-November, approximately 7600 postcards were mailed to residents notifying them of the consultant's recommendation, staff's recommendation of Route A, and the intent to

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present an agenda item to the City Commission requesting approval of the staff's recommended route.

- At the December 10, 2003 meeting, the City Commission gave conceptual approval of Route A with the understanding that a third public workshop would be held in January, the results of which will be presented at the January 14, 2004 City Commission meeting.

Route Analysis

- The route consultant developed a total of 33 potential routes. Six of the highest ranked alternative routes were presented to the community at the Second Public Workshop.
- After the Second Public Workshop, the consultant reexamined and revised his scoring which caused some changes in the final scoring on various routes. Route AD was one of the highest ranked alternative routes presented at the second Public Workshop. It was subsequently replaced by the consultant with Route N, which was not disclosed to the City until June 27, 2003 (From a public perspective, this route should be viewed very comparable to Route AD, because it utilizes significant portions of that route).

Estimates

- Overhead Line Construction estimates for these routes are as follows:
  Route A: $5,400,000 Route E: $5,800,000 Route F: $ 6,700,000
  Route N: $8,900,000 Route P: $10,000,000 Route T: $12,000,000.
- Estimates for Construction of combination Underground/Overhead Lines; **ONLY that portion of each route that is located on either Mahan or Buck Lake Roads to be installed underground:**
  Route A: $35,300,000 Route E: $26,700,000 Route F: $ 26,900,000
  Route N: $17,500,000 Route P: $11,000,000 Route T: $14,700,000

Recommendation by Electric Utility Staff

Staff does not concur with the consultant's recommendation. Instead, staff recommends Route A for the following reasons:

a. The survey data from the first Public Workshop had the highest number of respondents, 22 out of a total 65, asking for "a route with the least impact on families, homes, and land, which would mean using only existing right-of-way, main roads, and commercial areas. Route A is the route that follows this request as closely as possible

b. An overwhelming majority of the responding public preferred this route to the alternatives presented at the second Public Workshop. Below is the compilation of the resident's preference:

Route A	177
Route E	5
Route F	6
Route P	53
Route T	51
Route AD	19
Route O	1
No route	1
Don't favor or don't have a preferred route	7
Information is too much and not relevant for what is needed	1
Don't favor any route as long as the line is underground	1

c. Route A is the most economical overhead line route.

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d. The use of Route N as the preferred alternative is problematic, including liability terms generally imposed by CSX upon owners of facilities in the railway right-of-way. The City Attorney's Office has recommended against the use of CSX Right of Way for this reason.

e. Route N impacts approximately 3.5 miles of homes and land not currently impacted by any overhead electric line. Route F impacts approximately 2.33 miles of homes and land not currently impacted by any overhead electric line. All of proposed Route A is currently impacted by overhead electric lines.

f. This same land for route N or Route F could require the City to condemn some of the property for construction of the transmission line. Route A is proposed to be built on existing right-of-way (with the exception of approximately 450' along the north side of Mahan Drive near Weems Road).

g. Finally, the survey data suggests that the public perceives Buck Lake Road different in character than Mahan Drive. Mahan Drive is considered a major highway through the community while Buck Lake Road is considered a rural route. The community prefers that it be kept this way. Any route (Routes E, F, and N) that includes the use of Buck Lake Road would impact the rural character.

Community Notification of Recommendation

a. Approximately 7600 direct mail postcards were sent to residents in the study area on November 12 & 13, 2003, and a press release was issued on November 14, 2003.

b. A WCOT "Tallahassee Matters" segment on the transmission line project aired November 14 -December 10, 2003.

c. The City website was updated with the recommendation and provided a form for comments.

Results of Citizen Feedback on Recommendation (as of 12/10/03)

a. Telephone: 7 calls
Generally positive

b. Website: 253 visits
1 Comment form completed – Positive

c. Email: 2
Route A – 1
Route N or Underground Route A - 1

d. Homeowners Groups: 5
Supportive - 2
Supportive with some Underground on Mahan - 2
Opposed - 1

e. Leon County Concerns:
Overhead/Aesthetic Impact on Gateway
Health Concerns – EMF
Risk of Property Devaluation
Further Exploration of Other Routes

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Next Steps in Process

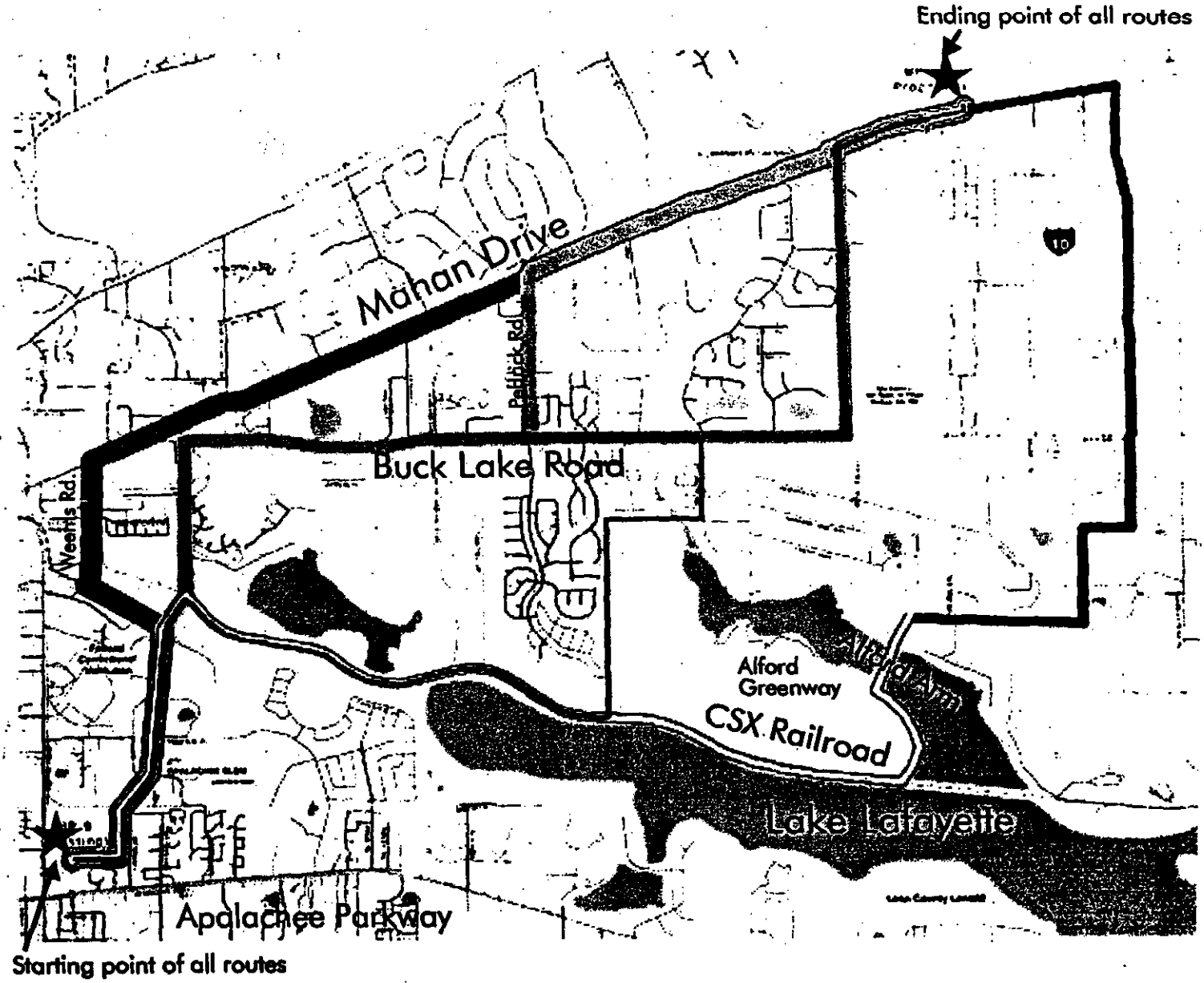
a. City Staff will meet with Leon County Staff regarding Leon County Commission concerns on 12/16/03.

b. City Staff will brief Leon County Commissioners (12/10/03 – 1/6/03).

c. A third Public Workshop will be held on January 6, 2004.

d. A summary of the third Public Workshop will be provided to the City Commission for consideration of staff's recommended route on January 14, 2004.

Eastern Transmission Line Primary Alternative Routes



Legend

- Route A
- Route E
- Route F
- Route P
- Route T
- Route N

Routes that follow the same path are represented by multiple stacked colors.

The beginning point for all routes is the existing substation located east of Capital Circle and north of Apalachee Parkway indicated by ★ colored star. The end point is a proposed substation at Mystic Warrior Trail indicated by ★ colored star.

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In order to best utilize these descriptions, you may want to print this page to compare it to the map on page one.

Route A [redacted]

Begins at the existing substation east of Capital Circle and north of Apalachee Parkway. It follows an existi transmission line easement to the east and north through Tom Brown Park to Weems Road. The route continues north along Weems Road, over the top of the existing distribution line to Mahan Drive. The route then turns east along Mahan Drive all the way to the proposed substation at Mystic Warrior Trail.

Route E [redacted]

Begins at the existing substation east of Capital Circle and north of Apalachee Parkway. It follows an existing transmission line easement to the east and north through Tom Brown Park. The route then turns to the northeast to the CSX railway corridor and then east again between the Weems Plantation Development and Fallschase. It continues north to Buck Lake Road and then east along Buck Lake Road. The route then turns north at Pedrick Road to Mahan Drive. The route then turns to the east along Mahan Drive to the proposed Substation at Mystic Warrior Trail.

Route F [redacted]

Begins at the existing substation east of Capital Circle and north of Apalachee Parkway. It follows an existing transmission line easement to the east and north to Tom Brown Park. The route would then turn to the northeast following the CSX railway corridor and then east between the Weems Plantation Development and Fallschase. It would continue north to Buck Lake Road and then east along Buck Lake Road. The route then turns north just east of Alameda Drive to Mahan Drive just east of the interstate interchange. The route then turns east to the proposed substation at Mystic Warrior Trail.

Route P

Begins at the existing substation east of Capital Circle and north of Apalachee Parkway. It follows an existi transmission line easement to the east and north through Tom Brown Park. The route would then turn northeast to the CSX railway corridor. The route then follows the railway to the eastern edge of the Alford Arm Greenway. The route then turns north along Old Dirt Road and to Mahan Drive east of the interchange. It then turns east to the proposed substation at Mystic Warrior Trail.

Route T [redacted]

Begins at existing substation east of Capital Circle and north of Apalachee Parkway. It follows an existing transmission line easement to the east and north through Tom Brown Park. The route would then turn northeast to the CSX railway corridor. The route then follows the railway to the eastern edge of the Alford Arm Greenway where it would turn to the north. It continues north, northwest and then northeast for approximately one mile before turning east. The route would then move east for approximately eight tenths of a mile. The route then turns north for approximately ½ mile. It then turns east again for approximately .25 mile. It then turns again to the north to Mahan Drive and the proposed substation at Mystic Warrior Trail.

Route N [redacted]

Begins at the existing substation east of Capital Circle and north of Apalachee Parkway. It follows an existing transmission line easement to the east and north through Tom Brown Park.
The route would then turn northeast to the CSX Railway corridor. The route then follows the railway to the western edge of the Alford Arm Greenway. It turns north here following the western edge of the greenway to Nabb Road. The route turns east here to Rutledge Road where it turns north to Buck Lake Road. At Buck Lake Road the route turns to the east and follows Buck Lake Road to just east of Alameda Drive. The route then turns north to Mahan Drive just east of the interstate interchange. The route then turns east to the proposed substation at Mystic Warrior Trail.

LINE 9A TRANSMISSION LINE ROUTING STUDY, TALLAHASSEE, FLORIDA

Figure 15. Criteria Occurrence Summary

Residential Properties:						
• Number of residences affected by acquisition of ROW (within 100 ft.)	24	23	25	3	4	2
• Length of line affecting residential/street trees (mi. X 10)	0.00	0.00	0.55	0.86	0.83	0.55
• Number of outbuildings to be removed	0	0	0	0	0	0
• Number of residential parcels crossed	6	7	14	21	23	13
Public and Commercial Interests:						
• Length of line in designated open space/parks (mi.)	0.189	0.095	0.095	0.645	0.645	0.962
• Length of line in conflict with setting of NRHP designated/eligible historic sites (mi.)	0	0	0.284	0.284	0	0.284
• Length of line in conflict with NRHP designated/eligible archaeological sites (mi.)	0	0	0	0.947	0.947	0.947
• Length of line affecting trees along designated Canopy Roads (mi.)	0	0	0	0	0	0
• Length of line affecting street trees along major arterials (mi.)	3.18	2.17	1.73	0.17	0.80	0.76
• Length of line adversely affecting commercial properties* (mi.)	0.379	0.095	0.095	0.189	0	0.095
Physical Resources:						
• Number of poles in karst features	0	3	3	13	14	13
• Number of poles in a floodway	0	0	0	0	0	0
• Number of poles on designated severe slopes (>20%)	1	1	0	26	25	16
• Number of poles on designated steep slopes (10-20%)	14	14	18	12	14	23
• Number of poles in a 100 year floodplain	0	1	3	16	17	13
• Number of poles in a 500 year floodplain	0	0	0	0	0	0
• Acres of disturbance (0.0092 ac/pole x number of poles)	0.83	0.91	0.93	1.03	1.19	0.95
• Length of line (total route length in miles)	8.06	7.90	8.45	10.07	11.84	9.35
Visual Considerations:						
• Number of homes from which transmission line is seen as a prominent visual intrusion[1]	87	16	24	23	17	62
• Number of homes from which transmission line is seen as an evident visual intrusion[2]	276	176	192	138	11	85
• Number of poles seen as a prominent visual intrusion[1] from open space areas	0	2	2	38	38	46
• Number of poles seen as an evident visual intrusion[2] from open space areas	14	7	7	21	21	4
• Number of poles seen as a prominent visual intrusion[1] from major public arterials	19	9	0	0	0	0
• Number of poles seen as an evident visual intrusion from major public arterials	34	71	45	4	10	17
• Number of visible prominent multiple deviations within a 3-span \ distance (2000')	3	3	1	2	0	0
Biological Resources:						
• Number of poles located within wetlands	0	1	1	4	3	2
• Length of line crossing over wetlands (mi.)	0.11	0.19	0.13	0.46	0.88	0.27
• Length of line located within native or high-quality successional forest (mi. X 10)	0	0	0	0	0	0
• Length of line located within other woodland (not including street/ residential trees) (mi. X 10)	2.37	2.37	2.37	6.53	7.67	4.36
• Length of line in proximity to sensitive species (with potential for adverse effects)	0	0	0	0	0	0
• Number of crossings of permanent waterways	4	3	5	4	10	5

[1] A prominent visual intrusion is considered to be a feature which is dominant in scale and conflicts with the character of the existing setting in a landscape largely without similar modifications.

[2] An evident visual intrusion is considered to be a feature which is readily visible but not dominant either because of distance/scale or because it is parallel to or replacing an existing transmission or large distribution line.

* Adverse effects to commercial properties include crossing properties at angles rather that along property/land lines, or passing with 100' of commercial buildings affecting their ability to expand (except along highway frontages where zoning requires a highway setback).

Line 9A Transmission Line Routing Study, Tallahassee, Florida

Figure 14. Primary Alternative Route Comparison

9/30/2003

Compliance Scores

Primary Alternatives

Criteria	A	E	F	P	T	N
Residential Properties	270 5	265 4	361 6			
Public and Commercial Interests	244 10	165 7	133 6			
Physical Resources				498 9	521 10	468 8
Visual Considerations	2,490 10					
Biological Resources				125 6	166 8	
Total of Ranks	27	17	19	20	25	29
Route Length (Miles)	8.1	7.9	8.5	10.1	11.8	9.4

Best Compliance

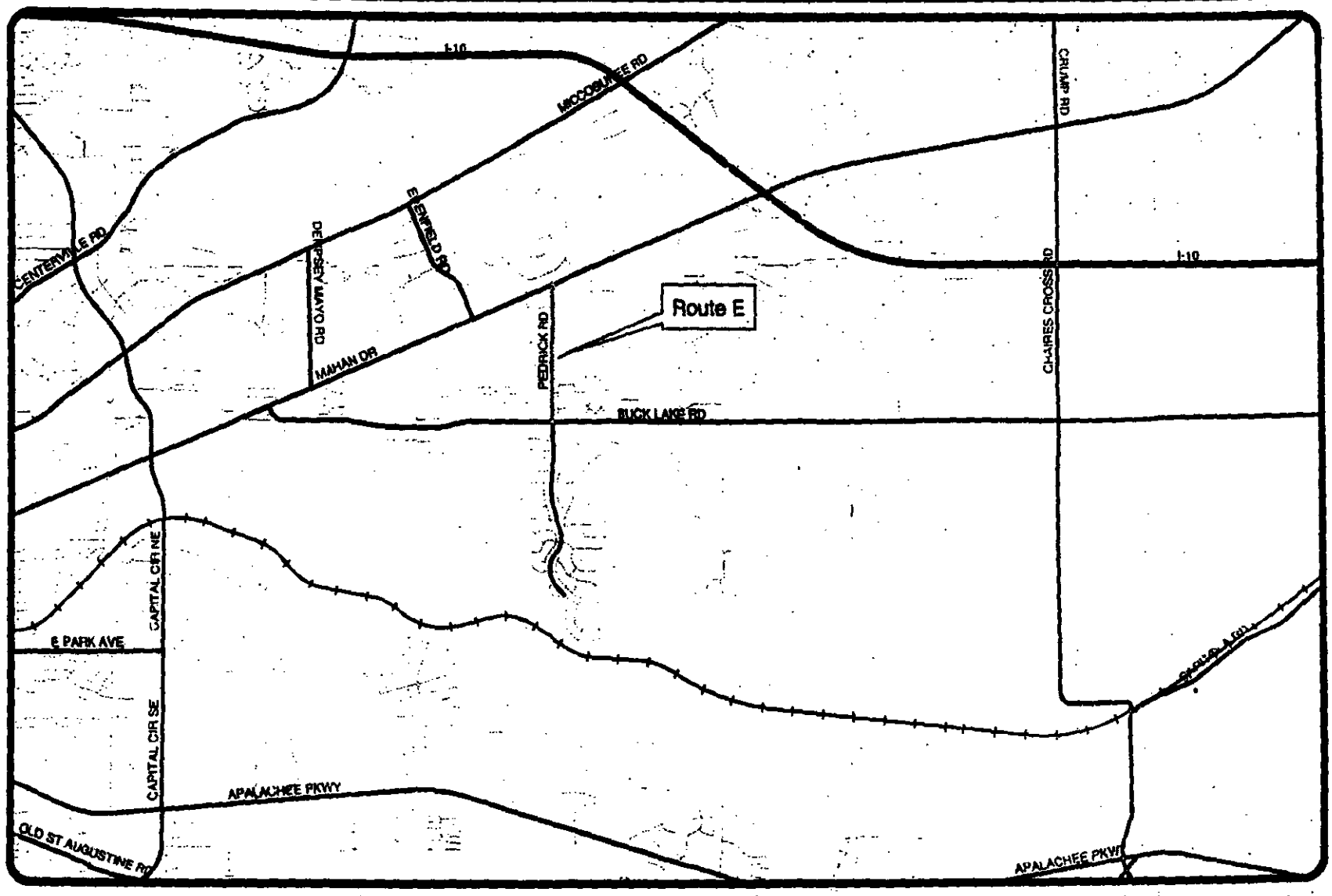
Second Best Compliance

Lower Compliance

16
1

Total Criteria Score
Total criteria score is the numerical score obtained from use of the weighted route evaluation criteria.

Rank Order Score
Rank order reflects a route's position relative to the other alternatives, i.e. a 1 indicates that this route is best among the alternatives for a given route evaluation criteria.



Parcels Impacted by Transmission Line Routes

Attachment # 2
Page 27 of 31

Disclaimer

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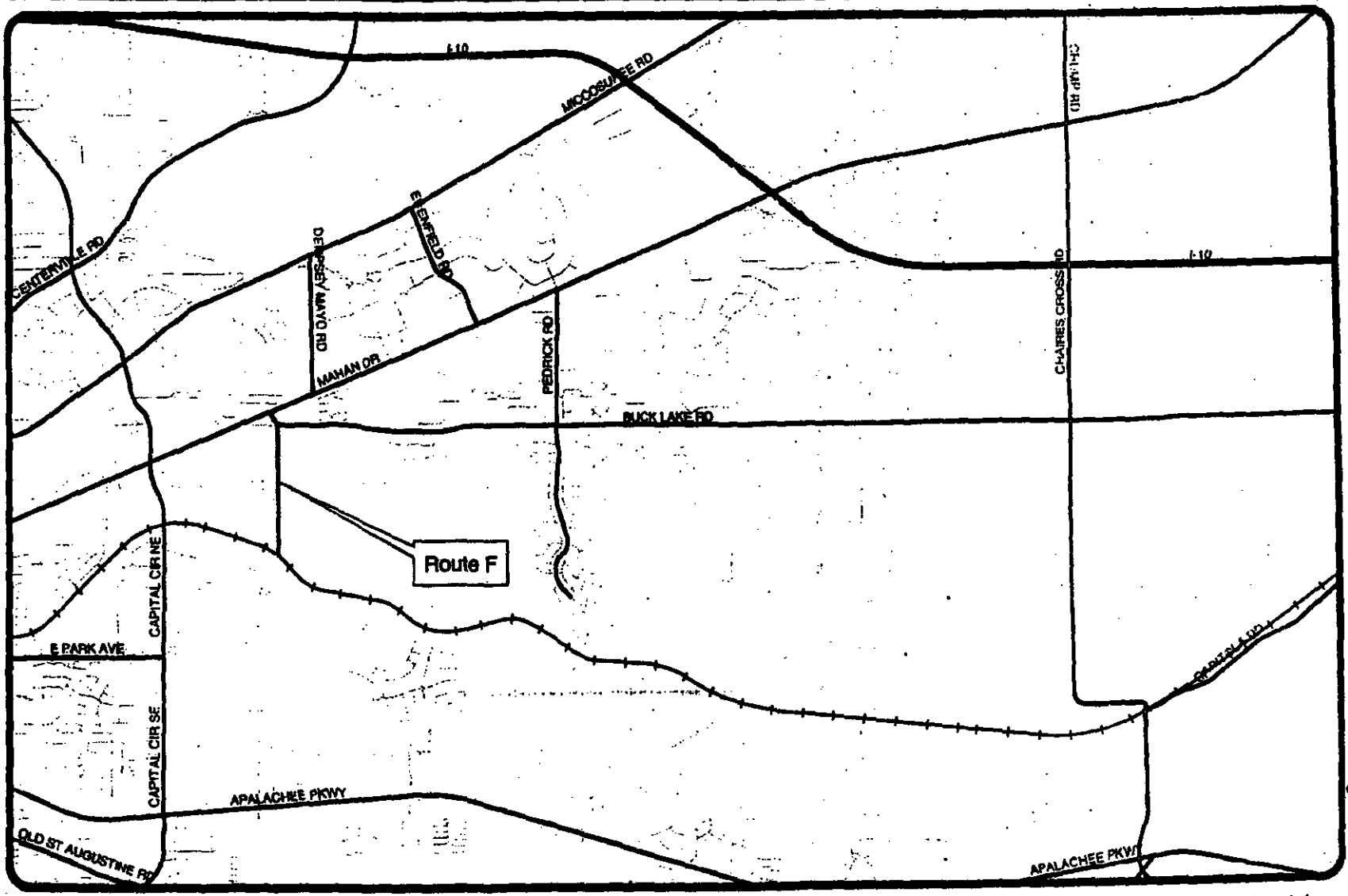
GIS

December 18, 2003

LEON COUNTY PUBLIC WORKS
Ph: (850) 488-9003
Map created by: EM
File: c:\WSpace\wadproj\Englp_translineE.mxd

N
W E
S

Route E: 40 Parcels



Parcels Impacted by Transmission Line Routes

Attachment # 3
Page 28 of 31

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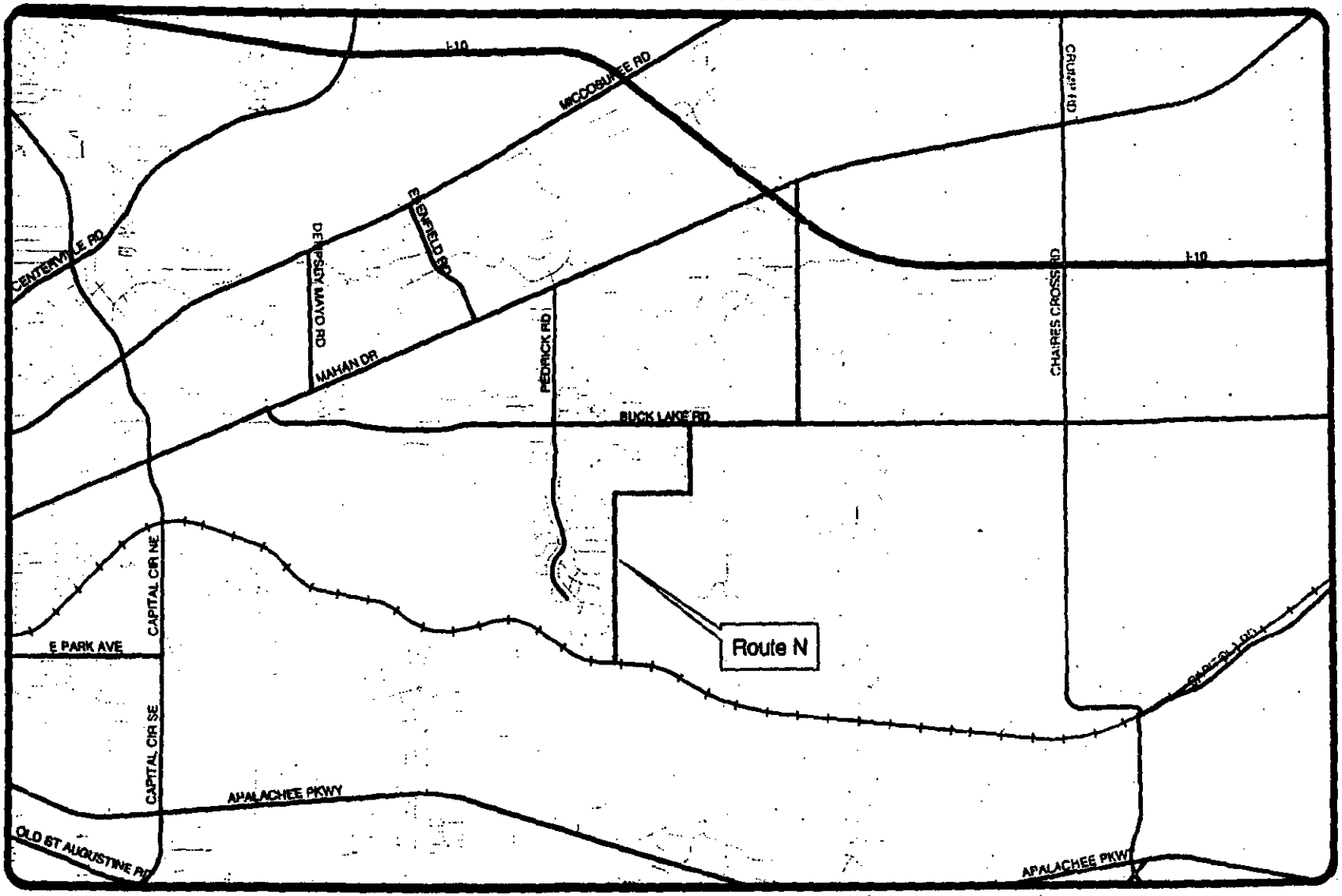
GIS

December 18, 2003

LEON COUNTY PUBLIC WORKS
Ph: (850) 488-8003
Map created by: EM
File: c:\WSpace\mxdproj\Engr\p_translineF.mxd

N
W E
S

Route F: 44 Parcels



Parcels Impacted by Transmission Line Routes

Attachment # 2
Page 29 of 31

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GIS

December 18, 2003

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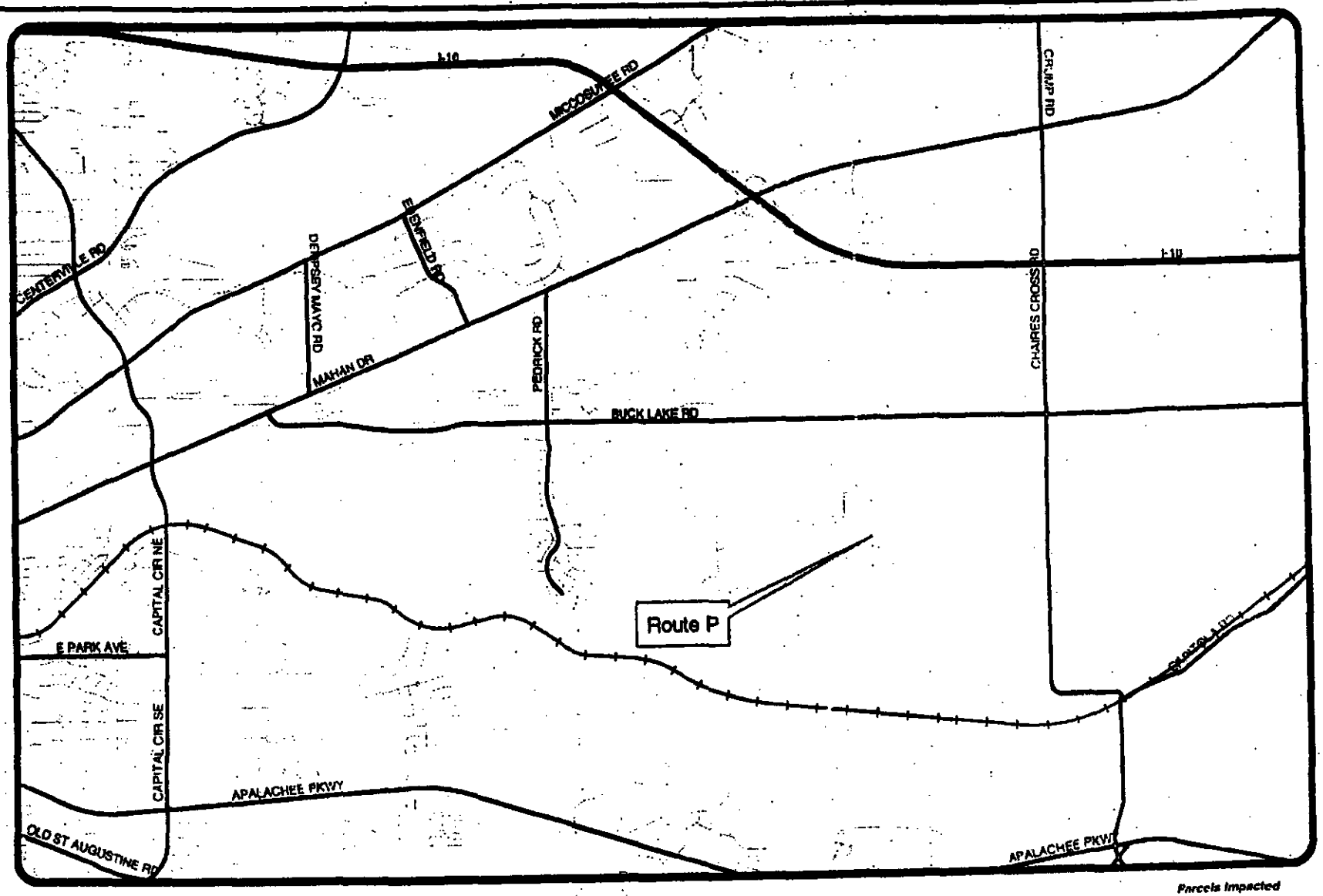
N
W E
S

Route N: 76 Parcels



Parcels Impacted by Transmission Line Routes

Attachment # 2
Page 30 of 31

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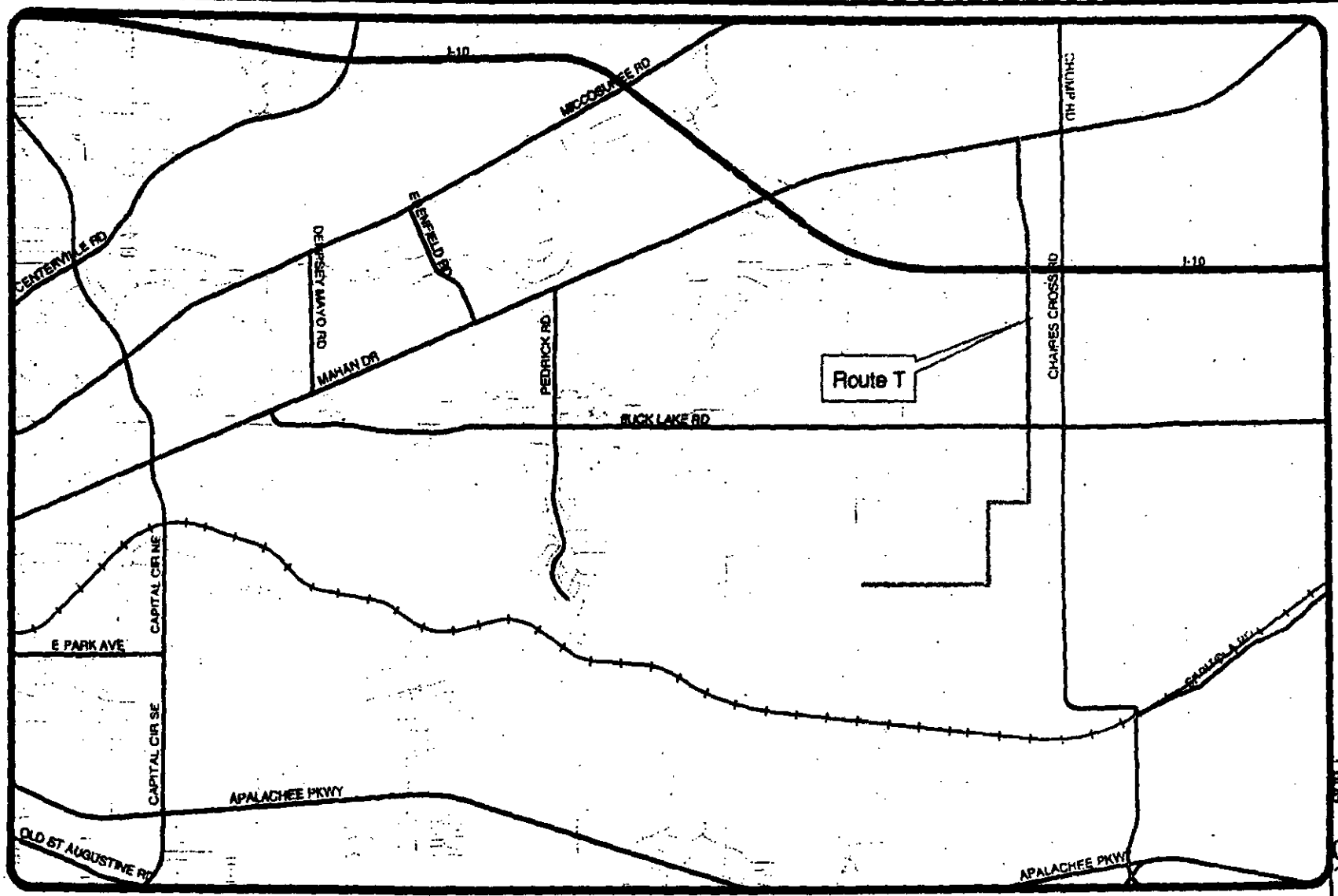
GIS

December 18, 2003

LEON COUNTY PUBLIC WORKS
Ph: (850) 488-9003
Map created by: EM
File: c:\WSpace\mxdproj\Engle_translineP.mxd

N
W E
S

Route P: 41 Parcels



Parcels Impacted by Transmission Line Routes

Attachment # 2 Page 31 of 31

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December 18, 2003

LEON COUNTY PUBLIC WORKS
Ph: (850) 488-9003
Map created by: EM
File: c:\WSpace\mxdproj\Engtp_transmeT.mxd

N
W E
S

Route T: 45 Parcels